

HYBRID CIRCUIT FOR BROADBAND MODEMS

ABSTRACT OF THE DISCLOSURE

A hybrid circuit that decouples gains for a transmit signal and a receive signal of a broadband modem that is coupled to a telephone line is provided. The hybrid circuit includes a multi-port transformer, a pair of line matching resistors, and a bridge circuit. The multi-port transformer includes a line coil electrically coupled to a telephone line, a linedriver coil magnetically coupled to the line coil and a receive coil that is also magnetically coupled to the line coil. In an alternate embodiment, a hybrid circuit is provided that includes a multi-port transformer in which the line coil, linedriver coil and receive coil include two coil segments. A broadband modem incorporating a hybrid circuit of the present invention is also provided.

188143_1.doc